To: Rodrigo Jurado[rjurado@pgei.com]
Cc: Breffle, Don[Breffle.Don@epa.gov]; Suchomel, Bruce[Suchomel.Bruce@epa.gov]; Gallant, William[Gallant.William@epa.gov]
From: Wang, Gary
Sent: Mon 9/14/2015 4:46:43 PM
Subject: RE: Step rate test for Petroglyph's Ute Tribal 29-12 injection Well (EPA ID UT20736-04523

HI Rodrigo,

I wanted to give an update on the Ute Tribal 07-15 well. I scanned the results a bit too fast on Friday and mis-read the results. This step rate test was performed in one continuous event after all. This was exactly what we want. I'll need to double check the numbers and get back to you.

One thing that I will likely propose is to revise the injection pressure calculated to the top of injection zone instead of top of perforation. This way, in case Petroglyph decides to perforate at shallower depths in the future, we won't have to perform another test. I'll keep you posted on the revised calculation.

Gary

From: Rodrigo Jurado [mailto:rjurado@pgei.com]
Sent: Friday, September 11, 2015 3:50 PM
To: Wang, Gary
Subject: RE: Step rate test for Petroglyph's Ute Tribal 29-12 injection Well (EPA ID UT20736-04523

OK. Thanks, Gary.

From: Wang, Gary [mailto:wang.gary@epa.gov]
Sent: Friday, September 11, 2015 3:49 PM
To: Rodrigo Jurado
Cc: Gallant, William; Suchomel, Bruce; Breffle, Don
Subject: RE: Step rate test for Petroglyph's Ute Tribal 29-12 injection Well (EPA ID UT20736-04523

Based off initial impressions of the Ute Tribal 07-15 step rate test, I'm compelled to say that I'm not sure if this test would be accepted as well. I'll talk to Don and loop back with you on Monday.

From: Wang, Gary
Sent: Friday, September 11, 2015 3:40 PM
To: 'Rodrigo Jurado'
Cc: Gallant, William; Suchomel, Bruce; Breffle, Don
Subject: FW: Step rate test for Petroglyph's Ute Tribal 29-12 injection Well (EPA ID UT20736-04523

Thanks Rodrigo,

This one hasn't come across my desk, but I'll ask around to see if anyone has addressed or taken a look at this. It looks like it was send to Don, Breffle, so I'll cross paths with him on Monday to see if any actions may have occurred for this well.

Gary

From: Rodrigo Jurado [mailto:rjurado@pgei.com]
Sent: Friday, September 11, 2015 3:14 PM
To: Wang, Gary
Subject: RE: Step rate test for Petroglyph's Ute Tribal 29-12 injection Well (EPA ID UT20736-04523

Hi Gary,

Thanks for following up our conversation with this email. So, I'm wondering if your team has reviewed the SRT for our Ute Tribal 07-15 (EPA ID UT2736-07414). The test was performed in

mid-July and the materials were mailed on 7/28/2015 and delivered on 8/3/2015. I've attached copies. Please let me know where we are at on the review of this test or if need to re-send the materials through USPS.

Thanks,

Rodrigo Jurado

Petroglyph Operating Company, Inc.

Regulatory Compliance Specialist

P.O. BOX 607

Roosevelt, UT 84066

OFFICE: (435) 722-5302

MOBILE: (435) 609-3239

FAX: (435) 722-9145

From: Wang, Gary [mailto:wang.gary@epa.gov]
Sent: Friday, September 11, 2015 2:35 PM
To: Rodrigo Jurado
Cc: Breffle, Don; Pardue-Welch, Kimberly; Suchomel, Bruce; Gallant, William
Subject: Step rate test for Petroglyph's Ute Tribal 29-12 injection Well (EPA ID UT20736-04523

HI Rodrigo,

Per our conversation yesterday, Petroglyph submitted a step-rate test for the Ute Tribal 29-12 injection well in July 1, 2015. The step rate test conducted by Petroglyph was performed in two test events. The first event was conducted with fluid injected from the water plant pump, and a slope of a plot of pressure versus rate showed that the injection pressure remained below fracture parting pressure. The second event was conducted several weeks later with water injected from a hot oiler truck and a second slope was generated and assumed to be above fracture parting pressure because of the result of a different slope. The intersection for the two slopes were assumed by Petroglyph to be the well's surface fracture pressure.

Based on the review of the data, EPA is not approving the step rate test results based on the following reason:

- A breakdown point was not observed in either event. Because of the two separate events, the result from Petroglyph appear as two disparate slopes used to extrapolate the fracture pressure. Additionally, experimental conditions (e.g., fluid characteristics) may have changed between the two testing events.

We would like to see the step rate test be retested with the following conditions:

- The step rate test is to be conducted where the plot of the pressure versus rate is experimentally collected in one continuous event, beginning from below the fracture parting pressure, through the breakdown point, and into the above fracture parting pressure.

- After additional discussion with others in the office, we would also like to see both surface and bottom-hole pressures to be observed during the step rate test.

Please let me know if you have any questions.

Gary Wang
Underground Injection Control Enforcement

U.S. Environmental Protection Agency

1595 Wynkoop St.
Denver, CO 80202
PH: 303-312-6469
FAX: 303-312-6953
EMAIL: wang.gary@epa.gov

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